TABLE 18. (Continued)

	1990	1991	1992	1993	1994	1995	1996
SCN a/	22.3	22.1	21.5	13.8	13.8	13.8	13.8
APN b/	11.6	11.5	11.2	10.4	10.2	10.1	10.1
WPN	7.3	7.3	7.3	7.4	7.4	7.3	7.3
MPN c/	13.0	13.4	13.7	13.8	13.8	13.8	13.8
O&MN	22.6	23.0	23.0	23.1	23.1	23.0	23.0
Other BA d/	13.9	13.9	14.0	14.1	14.1	14.2	14.1
Subtotal, Navy e/	90.7	91.2	90.7	82.6	82.4	82.2	82.1
Subtotal, Marines f/	7.8	7.8	7.8	8.0	8.0	8.0	8.0
Total, Department Of the Navy	98.5	99.0	98.5	90.6	90.4	90.2	90.1

d/ Includes all remaining fleet budget authority, such as Marine Corps costs generated by Navy force activities, all research, development, test, and evaluation (RDT&E), family housing, and military construction.

e/ Excludes Navy costs generated by Marine Corps activity, such as aircraft personnel, as well as small elements of APN, WPN, and Other BA.

f/ Includes all Marine budget authority except that generated by Navy forces.

TABLE 19. OPTION III: ESTIMATED BUDGET AUTHORITY FOR DEPARTMENT OF THE NAVY (By Fiscal Year, in Billions of Fiscal Year 1983 Dollars)

	1982	1983	1984	1985	1986	1987	1988	1989
SCN a/	9.6	11.6	13.5	12.5	12.5	12.9	13.9	11.0
APN b/	8.1	7.8	7.7	8.3	9.2	9.0	9.0	9.3
WPN	3.4	3.7	3.5	3.2	2.9	3.1	5.1	5.7
MPN c/	11.5	11.6	11.7	11.8	12.0	12.0	11.9	12.0
O&M, Navy	20.1	20.3	23.0	20.6	20.9	21.1	21.2	21.6
Other BA d/	13.0	13.1	13.0	14.0	13.3	13.1	13.4	13.5
Subtotal, Navy e/	65.7	68.1	72.4	70.4	70.8	71.2	74.5	73.1
Subtotal, Marines f/	8.9	8.7	9.4	9.2	9.1	9.0	8.8	8.2
Total, Department of the Navy	74.6	76.8	81.8	79.6	79.9	80.2	83.3	81.3

(continued)

a/ Assumes new construction accounts for 80 percent of total SCN budget requirement.

b/ APN for the AV-8B, as well as certain APN which varies with aircraft force levels, are included in Marine related budget authority.

c/ MPN includes military pay raises through October 1, 1982.

TABLE 19. (Continued)

	1990	1991	1992	1993	1994	1995	1996
SCN a/	12.6	11.3	11.3	11.5	11.5	11.5	11.5
APN b/	9.4	9.7	9.3	8.9	8.9	8.9	8.9
WPN	6.7	6.7	6.7	6.7	6.7	6.7	6.7
MPN c/	12.0	12.1	12.1	11.9	11.8	11.7	11.5
O&MN	21.8	22.0	22.0	21.6	21.3	21.0	20.8
Other BA d/	13.6	13.5	13.5	13.5	13.6	13.5	13.3
Subtotal, Navy e/	76.1	75.1	74.9	74.1	73.8	73.3	72.7
Subtotal, Marines f/	7.8	7.8	7.8	8.0	8.0	8.0	8.0
Total, Department of the Navy	83.9	82.9	82.7	82.1	81.8	81.3	80.7

d/ Includes all remaining fleet budget authority, such as Marine Corps costs generated by Navy force activities, all research, development, test, and evaluation (RDT&E), family housing, and military construction.

e/ Excludes Navy costs generated by Marine Corps activity, such as aircraft personnel, as well as small elements of APN, WPN, and Other BA.

f/ Includes all Marine budget authority except that generated by Navy forces.

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TABLE 20. OPTION IV: ESTIMATED BUDGET AUTHORITY FOR DEPARTMENT OF THE NAVY ((By Fiscal Year, in Billions of Fiscal Year 1983 Dollars)

	1982	1983	1984	1985	1986	1987	1988	1989
SCN a/	9.6	12.0	13.1	14.0	13.5	15.0	14.9	16.0
APN b/	8.1	7.8	7.7	8.3	9.6	9.8	10.0	11.6
WPN	3.4	3.7	3.5	3.5	3.3	3.6	5.2	6.7
MPN c/	11.5	11.6	11.7	11.8	12.0	12.0	12.1	12.2
O&MN	20.1	20.3	20.4	20.6	20.9	21.2	21.3	21.6
Other BA d/	13.0	13.1	13.0	14.0	13.3	13.1	13.4	13.5
Subtotal, Navy e/	65.7	68.5	69.4	72.2	72.6	74.7	76.9	81.6
Subtotal, Marines f/	8.9	8.7	9.4	9.2	9.1	9.0	8.8	8.2
Total Department of the Navy BA	74.6	77.2	78.8	81.4	81.7	83.7	85.7	89.8

(continued)

a/ Assumes new construction accounts for 80 percent of total SCN budget requirement.

b/ APN for the AV-8B, as well as certain APN which varies with aircraft force levels, are included in Marine related budget authority.

c/ MPN includes military pay raises through October 1, 1982.

TABLE 20. (Continued)

	1990	1991	1992	1993	1994	1995	1996
SCN a/	18.5	16.9	17.3	11.9	11.9	11.9	11.9
APN b/	13.2	13.1	12.7	12.1	11.6	10.1	10.2
WPN	7.2	7.2	7.3	7.3	7.3	7.3	7.2
MPN c/	12.4	12.3	12.9	13.4	13.4	13.6	13.7
O&MN	22.0	22.3	22.4	22.3	22.2	22.2	22.4
Other BA d/	13.6	13.6	13.6	13.8	13.8	14.0	13.9
Subtotal, Navy e/	86.9	85.4	86.2	80.8	80.2	79.1	79.3
Subtotal, Marines f/	7.8	7.8	7.8	8.0	8.0	8.0	8.0
Total Department of the Navy BA	94.7	93.2	94.0	88.8	88.2	87.1	87.3

d/ Includes all remaining fleet budget authority, such as Marine Corps costs generated by Navy force activities, all research, development, test, and evaluation (RDT&E), family housing, and military construction.

e/ Excludes Navy costs generated by Marine Corps activity, such as aircraft personnel, as well as small elements of APN, WPN, and Other BA.

f/ Includes all Marine budget authority except that generated by Navy forces.

CHAPTER VI. CURRENT ISSUES FOR THE CONGRESS

The preceding chapters have outlined the goals of the Navy's proposed expansion program, its rationale, and its projected costs. Some alternative programs have been similarly outlined.

The Congress must now make decisions that will, either explicitly or by default, help to define the future Navy. Underlying these decisions should be a judgment about the wisdom of the Navy's offensive strategy, correlated with a judgment about what budget levels are feasible to support naval modernization or expansion.

BASIC DIRECTIONS

If the Congress agrees with the Navy's strategy and with the shipbuilding program derived from it, and if the Congress believes that the Navy's plans should be realized as soon as possible, then a program similar to Option I might be pursued. As shown in the preceding chapter, this would require substantial and immediate increases in the Navy's budget.

If the Congress agrees with the Navy's strategy and its resulting force expansion program, but believes that the force expansion can be achieved at a more measured pace, then a program such as that outlined in Option II might be appropriate. This would also require substantial increases in the Navy budget but the costs would be spread over a longer time than in Option I.

If the Congress agrees with the Navy's strategy and concurs with buying the types of ships derived from it, but does not provide the substantially increased funding required to support the Navy program, then the result might be the fleet of Option III. Option III also would require growth in the Navy's budget but at a much more modest rate than either Options I or II.

A judgment by the Congress that the Navy program is not advisable, either because Congress disagrees with the strategy upon which it is predicated or because the budgets implied are deemed to be infeasible, would mean that some alternative program must be developed. Option IV is one such program. It is a

relatively modest departure from the Navy program, intended to upgrade the Navy's capabilites for open-ocean, distributed-force operations as opposed to emphasizing concentrated carrier battle group operations.

Still more radical departures from the Navy's proposed program might be pursued. For example, a program emphasizing submarines at the expense of aircraft carriers and surface combatants is an option that some might find promising. Such an option might also emphasize high technology, including satellite surveillance and long-range precision guided munitions for tactical strikes. Other alternatives might emphasize land-based aircraft in lieu of sea-based tactical air power. All of these are possible and, perhaps, advisable, but they are not currently recommended by the Navy. The alternatives available to the Congress within the context of the Navy shipbuilding program would involve either sharply increased budgets or lower budgets that, given the high costs of the Navy's ships, would maintain the Navy at force levels now deemed inadequate by the Administration's naval planners.

THE FIVE-YEAR SHIPBUILDING PROGRAM

The five-year shipbuilding program proposed by the Administration in the fiscal year 1983 budget is shown in Table 21. It proposes authorization of 133 new ships and 16 conversions, service life extensions (SLEPs), and reactivations in fiscal years 1983 through 1987. The proposed budget for fiscal year 1983 contains authorizations for 18 new construction ships and 7 conversions/SLEPs/reactivations with a budget authority requirement of over $18.6 billion, about twice the budget authority requested in 1982. Although the Administration's program is clearly tending in the direction of Options I and II, it concentrates a majority of the new construction ships in the last two years and would, therefore, result in a force buildup more akin to Option II than Option I.

The Administration's five-year program is estimated to cost an average of about $19.3 billion annually over the five-year period, somewhat less than the $21.3 billion estimated for Option II. One reason for this lower cost is that the Administration's program contains relatively few of the expensive surface combatants that would be needed to reach the Navy's objectives for new-generation cruisers and destroyers.

TABLE 21. ADMINISTRATION'S PROPOSED SHIPBUILDING PROGRAM FOR FISCAL YEARS 1983-1987

Type of Ship	1982 a/	1983	1984	1985	1986	1987	1983-1987 Total
Trident (Ballistic Missile Submarine)	--	2	1	1	1	1	6
SSN-688 (Attack Submarine)	2	2	3	4	4	4	17
CVN (Aircraft Carrier-Nuclear)	--	2	--	--	--	--	2
CV (Aircraft Carrier) SLEP b/	--	1	--	1	--	1	3
CG-47 (Guided Missile Cruiser)	3	3	3	3	4	4	17
CG-42 (Nuclear Guided Missile Cruiser)	--	--	--	--	--	1	1
DDG-51 (Guided Missile Destroyer)	--	--	--	1	--	3	4
DD (Destroyer)	--	--	--	--	2	1	3
BB (Battleship) Reactivation	1	1	1	1	--	--	3
FFG-7 (Guided Missile Frigate)	3	2	2	2	3	3	12
MCM (Mine Countermeasure Ship)	1	4	4	5	--	--	13
MSH (Mine Countermeasure Ship)	--	--	1	--	5	5	11
LSD-41 (Landing Ship Dock)	1	1	1	2	2	2	8
LHD-1 (Amphibious Ship)	--	--	1	--	--	1	2
AOE (Multipurpose Stores Ship)	--	--	--	1	1	2	4
AE (Ammunition Ship)	--	--	--	1	2	1	4
ARS (Salvage Ship)	2	1	1	--	--	--	2
AD (Destroyer Tender)	--	--	--	--	1	1	2
T-AO (Oiler)	1	1	3	4	4	6	18
T-AGS (Ballistic Missile Submarine Support Ship) Conversion	--	--	--	2	--	--	2
T-AK (Cargo Ship) Conversion	--	--	--	1	--	--	1
T-ARC (Cable Ship)	--	--	--	--	1	--	1
T-AGM (Range Instrumentation Ship) Conversion	--	--	--	--	1	--	1
T-AGOS/AGOS (Surveillance Towed Array Sensor System)	4	--	1	--	2	3	6
T-AKRX (SL-7) Conversion c/	4	4	--	--	--	--	4
T-AFS (Stores Ship) Conversion	2	--	--	--	--	--	--
T-AH (Hospital Ship) Conversion	--	1	1	1	--	--	2
New Construction Ships	17	18	21	24	32	38	133
Conversions/SLEPs/ Reactivations	7	7	2	2	1	1	16

SOURCE: Department of Defense

NOTE: All ships, conversions, and service life extensions are proposed to be authorized in the year listed. They will not enter the fleet until later years.

a/ Included to provide comparison with the Administration's program.

b/ SLEP = Service Life Extension Program.

c/ Acquisition of eight T-AKRXs will be completed in fiscal year 1982.

Aircraft Carriers

The most striking feature of the proposed fiscal year 1983 Navy budget is the recommendation for two large-deck, nuclear-powered aircraft carriers (CVNs) of the Nimitz class. The Administration believes that this procurement strategy would permit simultaneous purchase of heavy equipment for the ships and serial fabrication of major subassemblies. This, they believe, would strengthen the vendor/contractor base and accelerate the delivery of each ship by as much as 21 months.

Authorization of the two aircraft carriers would be a key step in realizing the program goals of the Navy and would be seen as a strong endorsement of that program. Although the obligational authority for these ships would be nearly $7 billion, outlays in the first year would probably total less than 5 percent of that amount. Authorization, however, would commit the public to a large and continuing stream of outlays not only for continuing carrier construction in the years beyond 1983 but also for procuring aircraft for the carriers and for support of the ships and aircraft over their life cycles. These expenditures would probably total at least $19 billion over 30 years for each carrier. The carrier decision, therefore, carries a substantial commitment forward to future budgets.

As an alternative to expanding the large-deck carrier force, the Congress could direct the Navy to build smaller carriers. The Navy has argued that the 60,000-ton carriers considered in the late 1970s are not sufficiently less expensive than the 90,000-ton Nimitz-class carriers to be cost effective. Another alternative would be to develop a design for a much smaller aviation support ship such as a 12-15,000-ton aviation cruiser (CVG)--as proposed for Option IV in this report. The CVG would not operate in the same way as a 60,000-ton or 90,000-ton aircraft carrier--that is, to launch high-performance combat aircraft--but would provide long-range surveillance, targeting, and ASW capabilities to a dispersed group of U.S. and allied surface warships and submarines, enabling them to use their long-range weapons more effectively. Thus, the CVG would serve as a catalyst, enabling the Navy to distribute its strike capabilities more effectively among many ships rather than having them concentrated in a few very powerful warships.

To be effective, however, the CVG would require an efficient V/STOL aircraft, suitably equipped with sensors appropriate for detecting and identifying enemy units and communications for

relaying this information to U.S. and allied forces in the area. The key initiative for implementing a distributed force concept, such as that suggested here, might well be development of this V/STOL aircraft.

If the Congress elected not to authorize more large-deck carriers or to initiate an alternative approach, such as the CVG, then some of the current tempo-of-operations pressure on existing carriers might be relieved by forming additional battle groups around the newly reactivated battleships and using these for some of the deployment commitments now covered by aircraft carriers. This is discussed further below.

Battleship Reactivations

Last year the Congress authorized reactivation of the battleship New Jersey and appropriated $325 million for that purpose. In its five-year program, the Administration proposes to reactivate the three remaining Iowa-class battleships, with Iowa scheduled in the fiscal year 1983 budget at a cost of $445 million. These ships would be fitted with Tomahawk and Harpoon cruise missiles to augment their 16-inch guns and, the Administration argues, would be a formidable addition to the Navy's active forces. This addition could be made available relatively quickly and at a relatively lower cost than new ships.

Battleships could operate in a variety of roles in peacetime and wartime operations. The formidable-looking battleships could be useful in relieving the current at-sea operating pressure on aircraft carriers for peacetime-presence and crisis-response operations. As was discussed in Chapter II, in wartime battleships could operate as the centerpiece of surface action groups in strikes against coastal targets and in supporting amphibious operations.

Work required for reactivation of the three remaining battleships will be somewhat more extensive than for New Jersey. New Jersey was previously reactivated in the 1960s for service in the Vietnam war. The three other ships have been out of service since the 1950s and will require more work. Although reactivation costs are comparable to that of a new-construction frigate or destroyer, operating costs for the battleships, with their crew of more than 1,500 and World War II vintage machinery systems, may be rather high--but would certainly be much less than for aircraft carriers.

Trident Submarines

The Administration has proposed authorization of two Trident submarines in the fiscal year 1983 budget, for a total cost of about $2.8 billion. Trident submarines are normally procured at a rate of one per year. Last year, however, the Congress, citing continued delays in Trident submarine deliveries, did not authorize a Trident in the fiscal year 1982 budget. No force level goal has been established for Trident submarines, but authorization of two ships in 1983 would return the program to the schedule recommended by the Administration.

Trident submarines, fitted with 24 missile launchers, are intended eventually to replace the 31 "Poseidon" ballistic missile submarines (which have 16 missile launchers each) that are currently in the fleet. 1/ The Poseidon submarines were all commissioned during the 1960s and will reach their 20th year of service during the 1980s. These ships have been carefully maintained by the Navy, however, and could operate for many more years. Furthermore, after a relatively modest modification that can be accomplished outside a shipyard, the Poseidon submarines could be capable of launching the same Trident I missile now used by the new SSBNs. The new Trident II missile, when deployed, probably in the late 1980s, will be compatible only with the larger missile launchers fitted on the Trident submarines.

Surface Combatants

The Administration's five-year shipbuilding program contains 37 other surface combatants of various types in addition to the battleships. For fiscal year 1983, these includes three CG-47-class cruisers and two FFG-7-class frigates. Of the 37 ships, 25 are "battle group" surface combatants--cruisers and destroyers--and the remainder are FFG-7-class guided missile frigates, intended as escorts for convoys and groups of ships other than carrier battle groups.

1/ The term "Poseidon" submarine is often used to denote collectively the ships of the SSBN 616-, SSBN 627-, and SSBN 640-class submarines that were converted to launch the Poseidon rather than the Polaris missile.

Considerably more than 25 cruisers and destroyers would be needed to meet the Navy's force level goals, given the large number of ships of these types approaching 30 years of service in the late 1980s and 1990s. In Chapter III, it was estimated that delivery of 61 new cruisers and destroyers would be required to meet the Navy's force goals by 1992, and 84 by 1996. The 25 ships currently programmed are clearly only a fraction of that requirement.

Of the 25 cruisers and destroyers in the Administration's program, 22 will be equipped with AEGIS or AEGIS-derivative AAW systems. These will be expensive ships. The CG-47-class ships cost over $1 billion per ship and the CGN-42 class, proposed for construction starting in fiscal year 1987, will probably cost at least 50 percent more. CBO estimates that the DDG-51-class destroyer, scheduled for construction starting in fiscal year 1985, will have a follow-ship price of about $800 million (in fiscal year 1983 dollars.)

As was shown in the discussion of the options in Chapter III, procurement of surface combatants is not only an important, but the dominant, factor in proposed future Navy shipbuilding budgets. If Option II is used as a model, for example, 59 additional cruisers and destroyers, beyond those in the Administration's current five-year program, would have to be authorized in fiscal years 1988 through 1992 in order to meet the Navy's force level goals for surface combatants by 1996 (assuming four years from authorization to delivery). Given the prices of the ship types now proposed, the procurement cost of these 59 ships would exceed $60 billion in fiscal year 1983 dollars.

Clearly, development of a lower-cost surface combatant with adequate combat capability could have substantial long-term benefits. A ship such as DDGY, proposed in Option IV and discussed in more detail in Appendix E, is suggested as a surface combatant that would be both affordable and effective in future naval combat. The dominance of surface combatants in future shipbuilding budget projections marks the development of such a warship as a key initiative in planning future naval forces.

The Administration proposes to continue production of FFG-7-class guided missile frigates, although those previously authorized will build the frigate force level above the Navy's objective. The Administration says it plans to continue procurement of this "useful and relatively inexpensive ship" to meet escort needs

other than those for carrier battle groups. It also plans to assign earlier ships of this class to the Naval Reserve force.

Attack Submarines

The Administration's five-year program proposes construction of 17 SSN-688-class attack submarines, including two in the fiscal year 1983 budget. This is about the construction rate required to sustain a force of 100 submarines--the Navy's current force goal--in the long term, assuming an operating life of 30 years. Given the age profile of the current force, however, procuring that many submarines over the next five years would increase the force above the 100-ship goal, assuming a 30-year life, or conversly, allow retirement of older nuclear submarines before 30 years.

A key issue in this area--in addition to that of how many submarines should be procured--is what kind of attack submarines should be built. The Administration proposes to continue production of the SSN-688-class submarine (first authorized in fiscal year 1970) through fiscal year 1987 and for the foreseeable future. Efforts to design an alternative class of nuclear-powered submarines, undertaken during the previous Administration, have been dropped.

There has also been recent interest in the Congress and among some defense analysts in the possibility of resuming production of non-nuclear submarines. This interest has been stimulated further by a recent proposal by the German firm of Howaldswerke-Deutsche Werft (mentioned in Chapter III) to design and build a 2,600-ton diesel-electric submarine, fully equipped with a U.S.-built combat suite, for a lead-ship price of about $200 million. If diesel-electric submarines could be acquired at about that price, then they could be procured at a ratio of about three ships to one (on a discounted life-cycle cost basis), compared with the SSN-688. It has been suggested that a mixed force of nuclear and diesel-electric submarines could provide a larger, and, therefore, potentially more effective force for a given level of investment than an all nuclear submarine force. The Navy concedes that modern diesel-electric submarines could be very effective in some important missions, such as barrier patrols, but argues that these missions should allocated to allied submarines, while the United States continues to build only high-performance, nuclear-powered attack submarines.

Mine Warfare Ships

Two new types of mine warfare ships are proposed in the Administration's five-year program. These ships would replace the 25 aging ocean minesweepers (MSOs) now in the fleet, all but three of which are assigned to the Naval Reserve force.

The Administration proposes authorization of 13 mine countermeasure ships (MCMs) during the five-year period as follow-ships to the lead MCM that was authorized in fiscal year 1982. In addition, the five-year program includes 11 ships of a new class of smaller mine hunters, designated MSH. Of these two types, the MCM is the larger and more capable. The MSH would augment the MCM ships during initial mine clearance and harbor breakout operations. These ships would have improved systems for minesweeping (causing mines to explode harmlessly), mine hunting (locating mines in the water or on the ocean floor) and mine neutralization (rendering the mine harmless after it has been located). Mine hunting and mine neutralization are important functions in dealing with sophisticated modern mines. The MCM is intended to provide a capability to counter Soviet deep-water mines.

As was discussed in Chapter II, mines are a potent naval weapon. These ships should improve U.S. capabilities in an area in which the United States now may be quite vulnerable.

Amphibious Ships

The Administration's five-year plan proposes procurement of 10 amphibious ships during the 1983-1987 period. This includes eight ships of the LSD-41-class and two ships of a new type designated LHD. Although this program represents a much more active procurement of amphibious ships than has been the practice in recent years, these 10 ships would not be sufficient to realize the Navy's announced goal of increasing amphibious lift capability from 1 to 1.5 Marine Amphibious Force (MAF). 2/ Therefore, further construction of amphibious ships in the years beyond fiscal year 1987 will be required if the 1.5 MAF goal is to

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2/ In the 11-year period starting in fiscal year 1972, only two amphibious ships, LSD-41 and 42, were authorized.

be achieved. 3/ Indeed, the proposed program is actually no more than a start in the direction of building up amphibious lift capability. The eight LSDs would be sufficient only to replace eight existing ships of the LSD-28 class that will be retired between 1984 and 1987, assuming retirement after 30 years.

The LHD, or general purpose amphibious assault ship, is a new initiative in amphibious ship design intended by the Administration to provide a net increase in amphibious lift capability. It will be based on the design of the Amphibious Assault Ship (LHA) and would replace the seven Helicopter Landing Ships (LPHs) scheduled for retirement in the mid-1990s. It will be a large ship, of about 40,000-tons displacement, and will be specifically designed to support high-speed landing craft air cushion (LCAC) vehicles and V/STOL aircraft. The Administration is also examining potential uses of the LHDs as V/STOL support platforms for diversifying and broadening the offensive aviation capabilities of the fleet. The LHD will be expensive, however, with the lead-ship procurement cost estimated at over $1 billion.

The Administration is also planning a third type of new amphibious ship, in the landing platform dock (LPD). This ship type is similar in size to the LSD-41 class and would carry a mixed load of troops, vehicles, cargo, LCACs, and helicopters. These ships, now designated LPDX, would replace LPDs now in the fleet. The Administration's current planning envisions authorization of the lead ship in fiscal year 1988.

Amphibious ships are different from the ships that have been procured in recent years to support mobility enhancement, particularly for support of the Rapid Deployment Force (RDF). The mobility-enhancement ships developed for the RDF are conversions or adaptations of merchant ship designs and require some developed port facilities for off-loading. They are appropriate for unopposed landings or for support of forces after a successful landing. Amphibious ships, on the other hand, are designed to support opposed landings and to discharge troops and equipment without the use of port facilities.

3/ Ongoing reappraisals by the Navy and Marine Corps of the lift capacity required for amphibious forces may result in still larger capacity requirements for achieving the 1.5 MAF lift goal.

Replenishment Ships

The Administration's five-year shipbuilding program contains a total of 26 replenishment ships, only one of which is included in the fiscal year 1983 budget. Replenishment ships, which provide fuel, ammunition, and stores to naval ships at sea, are essential to the Navy's ability to conduct sustained operations at sea. Growth in naval combat forces should be accompanied by a comparable growth in underway replenishment ships.

The Administration program includes four fast combat support ships (AOEs), four ammunition ships (AEs) and 18 fleet oilers (AOs). In addition, two combat stores ships (AFS) were recently purchased from the Royal Navy. The 26 ships in the Administration's proposal come close to the 29-ship program for replenishment ships contained in Option I. This program, if sustained in future budget requests and authorized by the Congress, would represent significant progress in improving the Navy's replenishment capabilities.

Support Ships

The Administration's five-year shipbuilding program also contains recommendations for procuring various types of support ships. These recommendations include no submarine tenders (ASs), however, and only two destroyer tenders (ADs) programmed in the last two years of the plan. The present material support ship force contains 26 ships-- 13 ASs, 9 ADs, and 4 repair ships (ARs). Assuming retirement of these ships at 40 years, this force would shrink to 15 ships--6 ADs and 9ASs--by 1986, the year in which the first new tender is programmed for authorization. The currently proposed program, therefore, would result in a substantial reduction in the number of tenders while the fleet they serve is growing, unless many of the current tenders were retained into their fifth decade of service.

SUMMARY ASSESSMENT OF THE FIVE-YEAR SHIPBUILDING PLAN

The Administration's five-year shipbuilding plan, containing 133 new construction ships and estimated to cost over $80 billion in fiscal year 1983 dollars, is more ambitious than previous programs submitted to the Congress in the past few years. It does not, however, contain enough ships to realize the Navy's announced force level goals for an expanded Navy. In addition, this plan--as has been the case with so many previous plans--has most of its

ships programmed in the later out-years. Over half of the 133 new construction ships are programmed for the last two years of the five-year plan. Achievement of the Navy's expanded force level goals would require adhering to the out-year building plans and continued high levels of construction in the years beyond fiscal year 1987.

APPENDIXES

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APPENDIX A. OPTION I: NAVY FORCE OBJECTIVES--SHIPS IN FLEET BY 1992 AND AUTHORIZED BY 1988

This appendix contains tables presenting, in detail, an illustrative shipbuilding program for Option I (see Table A-1) and a year-by-year breakdown of the force structure that would result from that building program (see Table A-2) taking into account the structure of the current fleet and assumed retirements through 1992. In this option, the objective is to achieve the Navy's force level goals by the end of 1992. In developing the force structure projections, assumptions about years of service until ship retirement (from commissioning date) and building time (from authorization to delivery) are as follows:

Retirement Assumptions

50 Years
- Aircraft Carriers (CV/CVN)

40 Years
- Destroyer Tenders (AD)
- Submarine Tenders (AS)
- Repair Ships (AR)
- Fleet Oilers (AO/TAO)
- Salvage Ship (ARS)
- Submarine Rescue Ship (ASR)
- Fleet Tug (ATF/TATF)

30 Years
- All others

Building Time Assumptions

- Aircraft Carriers (CVN)--8 years
- Ballistic Missile Submarine (SSBN)--6 Years
- Nuclear Powered Guided Missile Cruiser (CGN)--5 years
- Nuclear Powered Attack Submarine (SSN)--5 years
- All others--4 years

Under these assumptions, ships actually in the fleet by 1992 must be authorized no later than 1988.

Certain types of reserve and support ships, which are not included in the Navy's current ship counting methodology, are not included in these listings.

TABLE A-1. ILLUSTRATIVE SHIPBUILDING PROGRAM FOR OPTION I: NAVY FORCE OBJECTIVES--SHIPS IN FLEET BY 1992 AND AUTHORIZED BY 1988 (By fiscal year, costs in billions of fiscal year 1983 dollars)

Ship Type	1983		1984		1985		1986	
	Ships	Cost	Ships	Cost	Ships	Cost	Ships	Cost
Strategic								
SSBN (Trident)	1	1.4	1	1.4	1	1.4	1	1.4
General Purpose								
Combatants								
Aircraft carrier (CVN)	1	3.5			1	3.5		
Battleship (BB)	1	0.45	1	0.45	1	0.45		
Cruiser (CGN)			1	2.15			3	5.25
Cruiser (CG)	3	3.4	4	4.55	3	3.4	4	4.55
Destroyer (DDG)			1	1.25			4	3.2
Destroyer (DD)					6	3.0		
Submarine (SSN)	2	1.4	1	0.7	1	0.7	2	1.4
Amphibious Ships								
Amphib. assault ship (LHD)							1	1.3
Amphib. transport dock (LPD)								
Landing ship dock (LSD)	4	1.6	5	2.0	4	1.6		
Mine Warfare Ships								
Mine countermeasure ship (MCM)	6	0.6	6	0.65	5	0.5		
Mine warfare ship (MSH)			1	0.1	3	0.2	3	0.2
Replenishment Ships								
Fast combat support ship (AOE)							1	0.7
Oiler (AO/TAO)	4	1.2	4	1.2	4	1.2	2	0.6
Ammo. ship (AE/TAE)	1	0.45	2	0.80	1	0.40	1	0.40
Material Support Ships								
Destroyer tender (AD)	2	0.9	2	0.9	1	0.45	2	0.9
Submarine tender (AS)	1	0.45	1	0.45	1	0.45	1	0.45
Fleet Support Ships								
Surveillance ship (TAGOS)							2	0.2
Salvage ship (ARS)	1	0.10	1	0.1	1	0.1		
Total, All Ships	27	15.45	31	16.70	33	17.35	27	20.55

(continued)

TABLE A-1. (Continued)

Ship Type	1987 Ships	1987 Cost	1988 Ships	1988 Cost	Total Type	Total Type Cost	Percent of Total Cost All Ships
Strategic							
SSBN (Trident)	1	1.4	1	1.4	6	8.4	7
General Purpose							
Combatants							
Aircraft carrier (CVN)	1	3.5			3	10.5	9
Battleship (BB)					3	1.35	
Cruiser (CGN)	3	5.25	3	5.25	10	17.9	55
Cruiser (CG)	3	3.4	3	3.4	20	22.7	
Destroyer (DDG)	10	8.0	10	8.0	25	20.45	
Destroyer (DD)					6	3.0	
Submarine (SSN)	2	1.4	1	0.7	9	6.3	5
Amphibious Ships							
Amphib. assault ship (LHD)			2	2.0	3	3.3	
Amphib. transport dock (LPD)	1	0.7			1	0.7	8
Landing ship dock (LSD)					13	5.2	
Mine Warfare Ships							
Mine countermeasure ship (MCM)					17	1.75	2
Mine warfare ship (MSH)	3	0.2	3	0.2	13	0.9	
Replenishment Ships							
Fast combat support ship	1	0.5	2	1.0	4	2.2	
Oiler (AO/TAO)	3	0.9			17	5.1	9
Ammo. ship (AE/TAE)			3	1.20	8	3.25	
Material Support Ships							
Destroyer tender (AD)	1	0.45	1	0.45	9	4.05	5
Submarine tender (AS)					4	1.8	
Fleet Support Ships							
Surveillance ship (TAGOS)					2	0.2	<1
Salvage ship (ARS)					3	0.3	
Total, All Ships	29	25.70	29	23.60	176	119.35	

TABLE A-2. ILLUSTRATIVE FORCE STRUCTURE FOR OPTION I: NAVY FORCE OBJECTIVES--SHIPS IN FLEET BY 1992 AND AUTHORIZED BY 1988 (By fiscal year)

Ship Type	1981 End	1982 Re-tire	1982 Add	1982 End	1983 Re-tire	1983 Add	1983 End	1984 Re-tire	1984 Add	1984 End	1985 Re-tire	1985 Add	1985 End
Strategic													
SSBN (Poseidon)	34	3		31			31			31			31
SSBN (Trident)	1		1	2		1	3		1	4		2	6
Total, Strategic	35			33			34			35			37
General Purpose													
Combatants													
Aircraft carrier (CVN)	3	0	1	4			4			4			4
Aircraft carrier (CV)	9			9			9			9			9
Battleship (BB)	0			0		1	1		1	2		1	3
Cruiser (CGN)	9			9			9			9			9
Cruiser (CG)	18			18		1	19		1	20		1	21
Destroyer (DDG)	41			41			41			41			41
Destroyer (DD)	44			44		1	45			45			45
Frigate (FFG)	22		8	30		10	40		5	45		5	50
Frigate (FF)	59			59			59			59			59
Submarine (SSN)	86		6	92		5	97		4	101		2	103
Submarine (SS)	5			5			5			5			5
Small combat (PG/PHM)	5	2	3	6			6			6			6
Subtotal, Combatants	301			317			335			346			355
Amphibious Ships													
Helo assault ship (LHA/LHD)	5			5			5			5			5
Dock transport (LPD)	13			13			13			13			13
Helo transport ship (LPH)	7			7			7			7			7
Landing ship dock (LSD)	13			13			13	1	1	13	3		10
Landing ship tank (LST)	20			20			20			20			20
Command ship (LCC)	2			2			2			2			2
Assault transport (LKA)	5			5			5			5			5
Subtotal, Amphibious	65			65			65			65			62
Mine Warfare Ships													
Ocean minesweeper (MSO)	25	4	0	21			21	11		10	6		4
Mine warfare ship (MCM)	0			0			0			0			0
Mine warfare ship (MSH)	0			0			0			0			0
Subtotal, Mine Warfare	25			21			21			10			4
Replenishment Ships													
Station ship (AOE)	4			4			4			4			4
Station ship (AOR)	7			7			7			7			7
Oiler (AO/TAO)	19	1	2	20			20	2		18	3		15
Ammo. ship (AE/TAE)	13			13			13			13			13
Stores ship (AFS/TAFS)	10			10			10			10	1		9
Subtotal, Replenishment	53			54			54			52			48
Material Support Ships													
Destroyer tender (AD)	9	1	1	9	2	1	8	2		6			6
Submarine tender (AS)	13			13	1		12	1		11	1		10
Repair ship (AR)	4			4	1		3	1		2	2		0
Subtotal, Material Sup.	26			26			23			19			16
Fleet Support Ships													
Surveillance ship (TAGOS)	0			0		3	3		5	8		4	12
Salvage ship (ARS)	7			7			7			7		1	8
Rescue ship (ASR)	6			6	1		5			5			5
Salvage/rescue ship (ATS)	3			3			3			3			3
Fleet tug (ATF/TATF)	14			14			14	4		10	3		7
Subtotal, Fleet Sup.	30			30			32			33			35
Total, General Purpose	500			513			530			525			520
Total, All Ships	535			546			564			560			557

RETIREMENT ASSUMPTIONS: 50 years--CV/CVN; 40 years--AD, AS, AR, AO/TAO, ARS, ASR, ATF; 30 years--all others .

TABLE A-2. (Continued)

Ship Type	1986 Re-tire	1986 Add	1986 End	1987 Re-tire	1987 Add	1987 End	1988 Re-tire	1988 Add	1988 End	1989 Re-tire	1989 Add	1989 End
Strategic												
SSBN (Poseidon)			31			31			31			31
SSBN (Trident)		1	7		2	9			9		1	10
Total, Strategic			38			40			40			41
General Purpose												
Combatants												
Aircraft carrier (CVN)			4			4		1	5			5
Aircraft carrier (CV)			9			9			9			9
Battleship (BB)		1	4			4			4			4
Cruiser (CGN)			9			9			9		1	10
Cruiser (CG)		4	25		3	28		4	32		3	35
Destroyer (DDG)	1		40	1		39		1	40	1		39
Destroyer (DD)	2		43	4		39	4		35	4	6	37
Frigate (FFG)		4	54			54			54			54
Frigate (FF)			59			59			59			59
Submarine (SSN)		4	107	1	3	109	2	2	109	2	1	108
Submarine (SS)			5	1		4	1		3	2		1
Small combat (PG/PHM)			6			6			6			6
Subtotal, Combatants			365			364			365			367
Amphibious Ships												
Helo assault ship (LHA/LHD)			5			5			5			5
Dock transport (LPD)			13			13			13			13
Helo transport ship (LPH)			7			7			7			7
Landing ship dock (LSD)	2	1	9	2	4	11		5	16		4	20
Landing ship tank (LST)			20			20			20			20
Command ship (LCC)			2			2			2			2
Assault transport (LKA)			5			5			5			5
Subtotal, Amphibious			61			63			68			72
Mine Warfare Ships												
Ocean minesweeper (MSO)	2		2	1		1			1	1		0
Mine warfare ship (MCM)		1	1		6	7		6	13		5	18
Mine warfare ship (MSH)			0			0		1	1		3	4
Subtotal, Mine Warfare			3			8			15			22
Replenishment Ships												
Station ship (AOE)			4			4			4			4
Station ship (AOR)			7			7			7			7
Oiler (AO/TAO)	4	1	12		4	16		4	20		4	24
Ammo. ship (AE/TAE)			13	2	1	12		2	14	2	1	13
Stores ship (AFS/TAFS)			9			9			9			9
Subtotal, Replenishment			45			48			54			57
Material Support Ships												
Destroyer tender (AD)			6		2	8		2	10		1	11
Submarine tender (AS)	1		9		1	10		1	11		1	12
Repair ship (AR)			0			0			0			0
Subtotal, Material Sup.			15			18			21			23
Fleet Support Ships												
Surveillance ship (TAGOS)			12			12			12			12
Salvage ship (ARS)	3	2	7	3	1	5		1	6		1	7
Rescue ship (ASR)	2		3	1		2			2			2
Salvage/rescue ship (ATS)			3			3			3			3
Fleet tug (ATF/TATF)			7			7			7			7
Subtotal, Fleet Sup.			32			29			30			31
Total, General Purpose			521			530			553			572
Total, All Ships			559			570			593			613

BUILDING TIME ASSUMPTIONS: CVN--8 years; SSBN--6 years; CGN--5 years; SSN--5 years; all others --4 years.

TABLE A-2. (Continued)

Ship Type	1990 Re-tire	1990 Add	1990 End	1991 Re-tire	1991 Add	1991 End	1992 Re-tire	1992 Add	1992 End
Strategic									
SSBN (Poseidon)			31			31			31
SSBN (Trident)		1	11		1	12		1	13
Total, Strategic			42			43			44
General Purpose									
Combatants									
Aircraft carrier (CVN)			5		1	6			6
Aircraft carrier (CV)			9			9			9
Battleship (BB)			4			4			4
Cruiser (CGN)			10	1	3	12	1	3	14
Cruiser (CG)		4	39		3	42	1	3	44
Destroyer (DDG)	6	4	37	9	10	38	9	10	39
Destroyer (DD)			37			37			37
Frigate (FFG)			54			54			54
Frigate (FF)			59			59			59
Submarine (SSN)	4	1	105	6	2	101	3	2	100
Submarine (SS)	1		0			0			0
Small combat (PG/PHM)			6			6			6
Subtotal, Combatants			365			368			372
Amphibious Ships									
Helo. assault ship (LHA/LHD)		1	6			6		2	8
Dock transport (LPD)			13		1	14	1		13
Helo. transport ship (LPH)			7	1		6	1		5
Landing ship dock (LSD)			20			20			20
Landing ship tank (LST)			20			20			20
Command ship (LCC)			2			2			2
Assault transport (LKA)			5			5			5
Subtotal, Amphibious			73			73			73
Mine Warfare Ships									
Ocean minesweeper (MSO)			0			0			0
Mine warfare ship (MCM)			18			18			18
Mine warfare ship (MSH)		3	7		3	10		3	13
Subtotal, Mine Warfare			25			28			31
Replenishment Ships									
Station ship (AOE)		1	5		1	6		2	8
Station ship (AOR)			7			7			7
Oiler (AO/TAO)		2	26		3	29			29
Ammo. ship (AE/TAE)	1	1	13			13		3	16
Stores ship (AFS/TAFS)			9			9			9
Subtotal, Replenishment			60			64			69
Material Support Ships									
Destroyer tender (AD)	1	2	12		1	13		1	14
Submarine tender (AS)		1	13			13			13
Repair ship (AR)			0			0			0
Subtotal, Material Sup.			25			26			27
Fleet Support Ships									
Surveillance ship (TAGOS)		2	14			14			14
Salvage ship (ARS)			7			7			7
Rescue ship (ASR)			2			2			2
Salvage/rescue ship (ATS)			3			3			3
Fleet tug (ATF/TATF)			7			7			7
Subtotal, Fleet Sup.			33			33			33
Total, General Purpose			581			592			605
Total, All Ships			623			635			649